## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Inventors: Hisao KOGA, et al. Art Unit: 2661

Application No.: 10/719,061 Examiner: Unassigned

Filed: November 24, 2003

For: MULTICARRIER TRANSMITTER, MULTICARRIER

RECEIVER, AND MULTICARRIER COMMUNICATIONS

**APPARATUS** 

## INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner of Patents Washington, DC 20231

Dear Sir:

Pursuant to Rules 56 and 99, Applicants hereby call the attention of the Patent Office to the documents listed on the attached Form PTO 1449. All of these references were cited in an International Preliminary Examination Report dated February 24, 2005. The publication date of the Hawryluck, et al. article is sufficiently earlier than the effective U.S. filling date and any foreign priority date so that the particular month of publication is not in issue.

Applicants present this art so that the Patent Office may, in the first instance, determine any relevancy thereof to the presently claimed invention, see <u>Beckman Instruments</u>, <u>Inc. v.</u> Chemtronics, <u>Inc.</u>, 439 F.2d 1369, 1380, 165 USPQ 355, 364 (5th Cir.

1970). Also see Patent Office Rules 104 and 106. Applicants respectfully request that this art be expressly considered during the prosecution of this application and made of record herein and appear among the "References Cited" on any patent to issue herefrom.

Respectfully submitted,

Date: May 2, 2005

James E. Ledbetter Registration No. 28,732

JEL/ejw
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FORM PTO-1449 U.S. Department of Commerce (Rev. 4/92) Patent and Trademark Office ATTY. DOCKET NO. SERIAL NO. L8612.03108 10/719,061 INFORMATION DISCLASURE STATEMENT BY APPLICANT **APPLICANT** MAY O 2 2005 Hisao KOGA, et al (Use several sheets if decessary) **GROUP** FILING DATE November 24, 2003 2661 S. PATENT DOCUMENTS FXAMINER IF APPROPRIATE DOCUMENT NUMBER DATE NAME SUBCLASS **FOREIGN PATENT DOCUMENTS** DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) International Preliminary Examination Report dated February 24, 2005. Selesnick, Ivan, "The Design of Approximate Hilbert Transform Pairs of Wavelet Bases," IEEE Transactions on Signal Processing, Vol. 50, No. 5., IEEE, pages 1144-1152, May 2002.

**EXAMINER** 

**DATE CONSIDERED** 

**EXAMINER:** Initial if citation is considered, draw line through citation if not in conformance and not considered, Include copy of this form with next communication to applicant.

Hawryluck, Mark, et al., "Efficient Equalization of Discrete Wavelet Multi-Tone Over Twisted Pair," IEEE, pages 185-191, 1998.\_\_\_\_